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EVALUATION OF TRAINING EFFECTIVENESS BASED ON BEHAVIOUR

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ABSTRACT

Kirkpatrick's model consisting of four levels, i.e., reaction, learning, behavior and the result have been the basis for evaluating the training effectiveness. The objective of this study is to measure the effectiveness of the training programmes at the behavioral level and also to find out the difference of opinion and relationship among the variables of behaviour based on the demographic profile of the respondents. Data collected from 267 respondents from a population of 2645 participants attended training programmes from six selected public sector undertakings. Descriptive statistics were applied by using SPSS statistics version 20 software for data analysis. As a result of the analysis, it was found that the training programmes are effective at behaviour level. Achieving training effectiveness is a combined responsibility of participants, the sponsoring organization and also the training institute. The sponsoring organization must ensure that suitable candidates are nominated for training programmes.

KEYWORDS: Training, Behavior, Training Effectiveness, Application, Implementation, Training Evaluation, Employee Training

INTRODUCTION

Training

Training is **'the organized procedure by which people learn knowledge and/or skill for a definite purpose'** (Dale S. Beach, 1980). Training constitutes an important role in human resource development. It is concerned with developing a particular skill to a desired standardized level of instruction and practice. Training is a useful tool that can bring an employee into a position where they can do their job properly and effectively.

Training Effectiveness and Training Evaluation

Training effectiveness is determined with respect to the achievement of training's goals or set of training's goals (Warner and DeSimone, 2009). In other words, training effectiveness must be determined in relation to the goals of the program or programs being examined.

Training evaluation is defined as the systematic collection, analysis, and synthesis of descriptive and judgmental information necessary to make effective training decisions related to the selection, adoption, value, and modification of various instructional activities (Warner and De Simone, 2009). This definition mentions both descriptive and judgmental information which provide a picture of what is happening or has happened, and show any opinion or belief about what has happened in any given training intervention. Training evaluation includes the systematic collection, analysis, and synthesis of information according to a predetermined plan to ensure the information is appropriate and useful.

Furthermore, an evaluation of training programme can help managers, employees, and HRD professionals make informed decisions about particular programs and methods.

Evaluation of Behaviour

Evaluation at this level measures the transfer of new knowledge and skill acquired during training in the workplace. This shows to what extent the training programme improved the everyday work of the participant. However, evaluation at this level is more difficult, because it is impossible to predict when the change in behaviour will occur, when to evaluate, how to evaluate, etc. The researcher, from his vast experience in conducting training programmes noticed that transfer of knowledge and skills to the workplace, change in behaviour can be observed only after a period of one year after training.

Evaluation tools:

- Feedback from managers

- Observation

- Interviews of participants and managers

REVIEW OF LITERATURE

Tarun Singh (2015) in the study entitled "Efficacy of Training and development programs of Employees Productivity at Bharat Heavy Electricals Ltd.", an attempt has been made to study the impact of training programs on employee efficiency of the Bharat Heavy Electricals Ltd. which appended to be positive.

Neeraj S. Borate (2014) in the study entitled "A Case study approach for Evaluation of Employee Training effectiveness and Development program", concluded that the employees in the multinational company find the training program was more effective. The mean of hypotheses were significantly higher than the theoretical mean of the effectiveness of the overall training program.

Swaminathan (2012) in the study entitled "Perceived Effectiveness of Training and Development - A Case Study in STC Technologies Pvt. Ltd, Chennai", found that employees perceived that the training programs were more effective and also well organized.

Research Gap

It is observed from the review of literature that there is no much research has been conducted on the evaluation of effectiveness of training programmes in the areas of engineering conducted by government training institutes. Researcher got motivated to fill this gap. The researcher himself is a trainer directly involved in imparting training. This study not only brings out the drawbacks of the training programmes, but also shows the ways to improve future training programmes.

RESEARCH METHODOLOGY

Research Questions

The main research questions are

- What is the socio economic profile of the participants attended training programmes?

- Whether the training programmes are effective or not at behavioural level?

- What is the difference of opinion of the participants on the variables of behaviour based on their demographic profile?

- What is the relationship between the variables of the behaviour level of training effectiveness?

Research Objectives

The main objective of the study is to evaluate the effectiveness of training programmes among employees of the select public sector undertakings at behaviour level. The specific objectives of this study are:

- To analyze the socioeconomic profile of the participants attended training programmes from public sector industries.

- To measure the effectiveness of training at behavioural level as opined by the respondents of public sector industries.

- To evaluate the difference of opinion on the behaviour based on the demographic profile of the respondents.

- To investigate the relationship between the variables of the behaviour level of effectiveness of training.

- To provide the suitable suggestions if necessary.

Hypotheses

Hypothesis 1: Training programmes are effective at the behavior level as opined by the respondents.

Hypothesis 2: There is no significant difference of opinion on the behavioural level based on the demographic variables (age, qualification, designation, experience) of the respondents.

Hypothesis 3: There is no significant relationship between the variables of behaviour level of training effectiveness.

SCOPE OF THE STUDY

This study focuses on the effectiveness of training programmes conducted by Advanced Training Institute, Hyderabad for the employees of six selected public sector industries. The analysis is carried out by investigating variables of behaviour i.e., application and implementation. Questionnaires were distributed and data collected from the participants who attended the training programmes.

Statistical Population

The researcher has identified the list of six public sector undertakings. The training programmes are conducted by the Advanced Training Institute, Hyderabad for the participants sponsored by public sector undertakings. The total number of employees who have attended the training programmes are 2645 from the public sector industries.

Sample of the Study and Sampling Method

The use of a sample about 10% size of parent population is recommended for any research. According to Roscoe (1975), it seems to use 10% as a "rule of thumb" acceptable level. Then another author Alreck & Settle (1995) stated that if

the parent population is 1400 and then the sample size should be about 140. Hence, the researcher has identified 10% of the sample size is selected from each company from public sector undertakings. In this research, the researcher has adopted a simple random sampling method to collect the primary data.

Data Collection Method

Totally, 300 questionnaires were distributed among the trainees from six public sector industries, the researcher found 267 filled questionnaires are in order and 23 questionnaires were found to be incomplete. So, 267 samples from public sector industries have been taken for the study.

Measurement Scale

The questionnaire consisted of a series of statements, where the trainees needed to provide answers in the form of agreement or disagreement. A Likert scale was used so that respondent could select a numerical score ranging from 1 to 4 to indicate their degree of agreement or otherwise. Numerical scores ranging from 1 to 4 indicate "strongly disagree", "disagree", "agree" and "strongly agree" respectively.

ANALYSIS AND DATA INTERPRETATION

Descriptive statistics were applied by using SPSS statistics version 20 software for analysis.

Demographic Profile

This part of analysis analyses the age, the educational qualification, designation and experience of the respondents from public sector undertakings.

Table 1: Age of the Respondents

Categories	Public Sector Undertaking	
	Frequency	Percent
30 Years – 40 Years	197	73.8
40 Years – 50 Years	70	26.2
Total	**267**	**100.0**

From the table 1, it's much clear that the majority of the respondents are between the age group of 30 years – 40 years with 73.8 percent, and then 26.2 percent of the respondents are between 40 years – 50 years of age group.

Table 2: Educational Qualification of the Respondents

Categories	Public Sector Undertaking	
	Frequency	Percent
ITI	143	53.6
Diploma	124	46.4
Total	**267**	**100.0**

Table 2 clearly shows that the majority of the respondents have ITI as their educational qualification with 53.6 percent, and then 46.4 percent of the respondents have a diploma as their educational qualification.

Table 3: Designation of the Respondents

Categories	Public Sector Undertaking	
	Frequency	Percent
Technician	143	53.6
Supervisor	124	46.4
Total	**267**	**100.0**

Table 3 clearly shows that the majority of the respondents are working as technicians with 53.6 percent and 46.4 percent of the respondents are working as supervisors.

Table 4: Experience of the Respondents

Categories	Public Sector Undertaking	
	Frequency	Percent
5 Years – 10 Years	103	38.6
10 Years – 20 Years	72	27.0
20 Years – 30 Years	92	34.5
Total	**267**	**100.0**

Table 4 clearly shows that the majority of the respondents is having a work experience between 5 years – 10 years with 38.6 percent, then 34.5 percent of the respondents are having a work experience between 20 years – 30 years, then 27 percent of the respondents are having a work experience between 10 years – 20 years.

Testing of Hypotheses

Effectiveness of Training Programmes at Behaviour Level

The variables measuring the behavior, i.e., application (capability improvement), implementation and the overall behaviour are displayed below.

H0: Training programmes are effective at the behaviour level as opined by the respondents.

Table 5: Mean and Standard Deviation of Overall Behaviour

Measuring Questions	Public Sector Undertaking	
	Mean	Sd
Application (Capability Improvement)	3.27	0.528
Implementation	3.73	0.445
Mean Score	**3.73**	**0.443**

The respondents clearly state that they highly agree with the implementation with a mean value of 3.73 and with a standard deviation of 0.445. Similarly, the respondents clearly state that they highly agree with the application (capability improvement) with a mean value of 3.27 and with a standard deviation of 0.528.

Thus, null hypothesis is accepted. Hence, training programmes are effective at the behaviour level as opined by the respondents.

Testing of Hypothesis 2

Difference of Opinion on the Behaviour Level based on the Demographic Profile

H_0: There is no significant difference between the variables measuring behaviour based on the age category of the respondents.

Table 6: Difference of Opinion between the Variables Measuring
Behaviour based on the Age Category of the Respondents

Public Sector Undertaking						
Variables	**Labels**	**N**	**Mean**	**Sd**	**F**	**Sig.**
Application (Capability Improvement)	30 Years – 40 Years	197	3.16	.495	35.955	.000*
	40 Years – 50 Years	70	3.57	.498		
	Total	**267**	**3.27**	**.528**		
Implementation	30 Years – 40 Years	197	3.69	.466	7.918	.005*
	40 Years – 50 Years	70	3.86	.352		
	Total	**267**	**3.73**	**.445**		
Behaviour	30 Years – 40 Years	197	3.74	.439	.189	.664
	40 Years – 50 Years	70	3.71	.455		
	Total	**267**	**3.73**	**.443**		
* Significant at the 0.05 level (2-tailed).						

The variance application (capability improvement) and implementation show that there is a significant difference between the opinions of the respondents based on the age category. The calculated significance is less than the assumed significance (P < 0.05). Hence, the null hypothesis is rejected.

Whereas, the variable behavior shows that there is no significant difference between the opinions of the respondents based on the age category. The calculated significance is greater than the assumed significance (P > 0.05). Hence, the null hypothesis is accepted.

Thus, the Null Hypothesis HO is rejected in Case of Application and implementation. It is accepted in case of behaviour.

H_0: There is no significant difference between the variables measuring behaviour based on the educational qualification category of the respondents.

Table 7: Difference of Opinion between the Variables Measuring
Behaviour based on the Educational Qualification Category of the Respondents

Public Sector Undertaking						
Variables	**Labels**	**N**	**Mean**	**Sd**	**F**	**Sig.**
Application (Capability Improvement)	ITI	143	3.27	.596	.051	.821
	Diploma	124	3.26	.439		
	Total	**267**	**3.27**	**.528**		
Implementation	ITI	143	3.71	.454	.452	.502
	Diploma	124	3.75	.435		
	Total	**267**	**3.73**	**.445**		
Behaviour	ITI	143	3.64	.481	13.545	.000*
	Diploma	124	3.84	.369		
	Total	**267**	**3.73**	**.443**		
* Significant at the 0.05 level (2-tailed)						

The variable behaviour, show that there is a significant difference between the opinions of the respondents based on the educational qualification category. The calculated significance is less than the assumed significance (P < 0.05). Hence, the null hypothesis is rejected.

Whereas, the variable application (capability improvement) and implementation shows that there is no significant difference between the opinions of the respondents based on the various educational qualification categories. The calculated significance is greater than the assumed significance (P > 0.05). Hence, the null hypothesis is accepted.

Thus the null hypothesis HO is rejected in case of behaviour. It is accepted in case of application and implementation.

H_0: There is no significant difference between the variables measuring behaviour based on the designation category of the respondents.

Table 8: Difference of Opinion between the Variables Measuring Behaviour based on the Designation Category of the Respondents

Public Sector Undertaking						
Variables	**Labels**	**N**	**Mean**	**Sd**	**F**	**Sig.**
Application (Capability Improvement)	Technician	143	3.27	.596	.051	.821
	Supervisor	124	3.26	.439		
	Total	**267**	**3.27**	**.528**		
Implementation	Technician	143	3.71	.454	.452	.502
	Supervisor	124	3.75	.435		
	Total	**267**	**3.73**	**.445**		
Behaviour	Technician	143	3.64	.481	13.545	.000*
	Supervisor	124	3.84	.369		
	Total	**267**	**3.73**	**.443**		
* Significant at the 0.05 level (2-tailed)						

The variable behaviour show that there is a significant difference between the opinions of the respondents based on the designated category. The calculated significance is less than the assumed significance ($P < 0.05$). Hence, the null hypothesis is rejected.

Whereas the variable application (capability improvement) and implementation shows that there is no significant difference between the opinion of the respondents based on the designated category. The calculated significance is greater than the assumed significance ($P > 0.05$). Hence the null hypothesis is accepted.

Thus the null hypothesis HO is rejected in case of behaviour. It is accepted in case of application and implementation.

H_0: There is no significant difference between the variables measuring behaviour based on the experience category of the respondents.

Table 9: Difference of Opinion between the Variables Measuring Behaviour based on the Experience Category of the Respondents

Public Sector Undertaking						
Variables	**Labels**	**N**	**Mean**	**Sd**	**F**	**Sig.**
Application (Capability Improvement)	5 Years – 10 Years	103	3.20	.405	29.896	.000*
	10 Years – 20 Years	72	2.99	.544		
	20 Years – 30 Years	92	3.55	.500		
	Total	**267**	**3.27**	**.528**		
Implementation	5 Years – 10 Years	103	3.70	.461	11.900	.000*
	10 Years – 20 Years	72	3.57	.499		
	20 Years – 30 Years	92	3.89	.313		
	Total	**267**	**3.73**	**.445**		
Behaviour	5 Years – 10 Years	103	3.81	.397	7.207	.001*
	10 Years – 20 Years	72	3.57	.499		
	20 Years – 30 Years	92	3.78	.415		
	Total	**267**	**3.73**	**.443**		
* Significant at the 0.05 level (2-tailed)						

The variance application (capability improvement), implementation and behaviour show that there is a significant difference between the opinions of the respondents based on the experience category of the respondents. The calculated significance is less than the assumed significance ($P < 0.05$). Hence, the null hypothesis is rejected.

Thus, the null hypothesis HO is rejected. There is significant difference between the variables measuring behaviour based on the experience category of the respondents.

Pearson's Bivariate Correlation

This parts measures the relationship between the variables of behavior i.e., application and implementation.

H_0: There is no significant correlation between the variables of behaviour.

Table 10: Correlation between the Variables of Behaviour

Public Sector Undertaking				
Variables		**APP**	**IMP**	**BEH**
APP	PC	1		
	Sig.			
	N	267		
IMP	PC	.307**	1	
	Sig.	.000		
	N	267	267	
BEH	PC	.481**	.799**	1
	Sig.	.000	.000	
	N	267	267	267
**. Correlation is significant at the 0.01 level (2-tailed).				
PC – Pearson Correlation				
N – Number of Respondents				

Positive Correlation

All variants of behavior are positively correlated. The variance application has positive correlation with the variable implementation (0.307) and behaviour (0.481). Similarly, the variable implementation has positive correlation with the variable behaviour (0.799).

Thus, the null hypothesis HO is rejected. There is significant correlation between the variables of behaviour.

RECOMMENDATIONS

It is found from the analysis that training programmes are effective, the following suggestions are made for further improvement of training programmes.

- Training programmes are to be designed by keeping in mind age, qualification, designation, length of service of the participants.

- Exclusive training programmes may be conducted for technicians and supervisors to make training programmes more effective.

- Organizations should sponsor suitable employees for training programmes.

CONCLUSIONS

Achieving training effectiveness is a combined responsibility of participants, sponsoring organizations and the training institute. The sponsoring organization must ensure that suitable candidates are nominated for training programmes. While nominating candidates, the sponsoring organization may record major expectations from the participants after training. There should be mandatory training evaluation. This can be done through appropriate pre and post-training knowledge or skill or both tests. This will give an indication about the performance, effectiveness of both participants and the training programme itself.

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